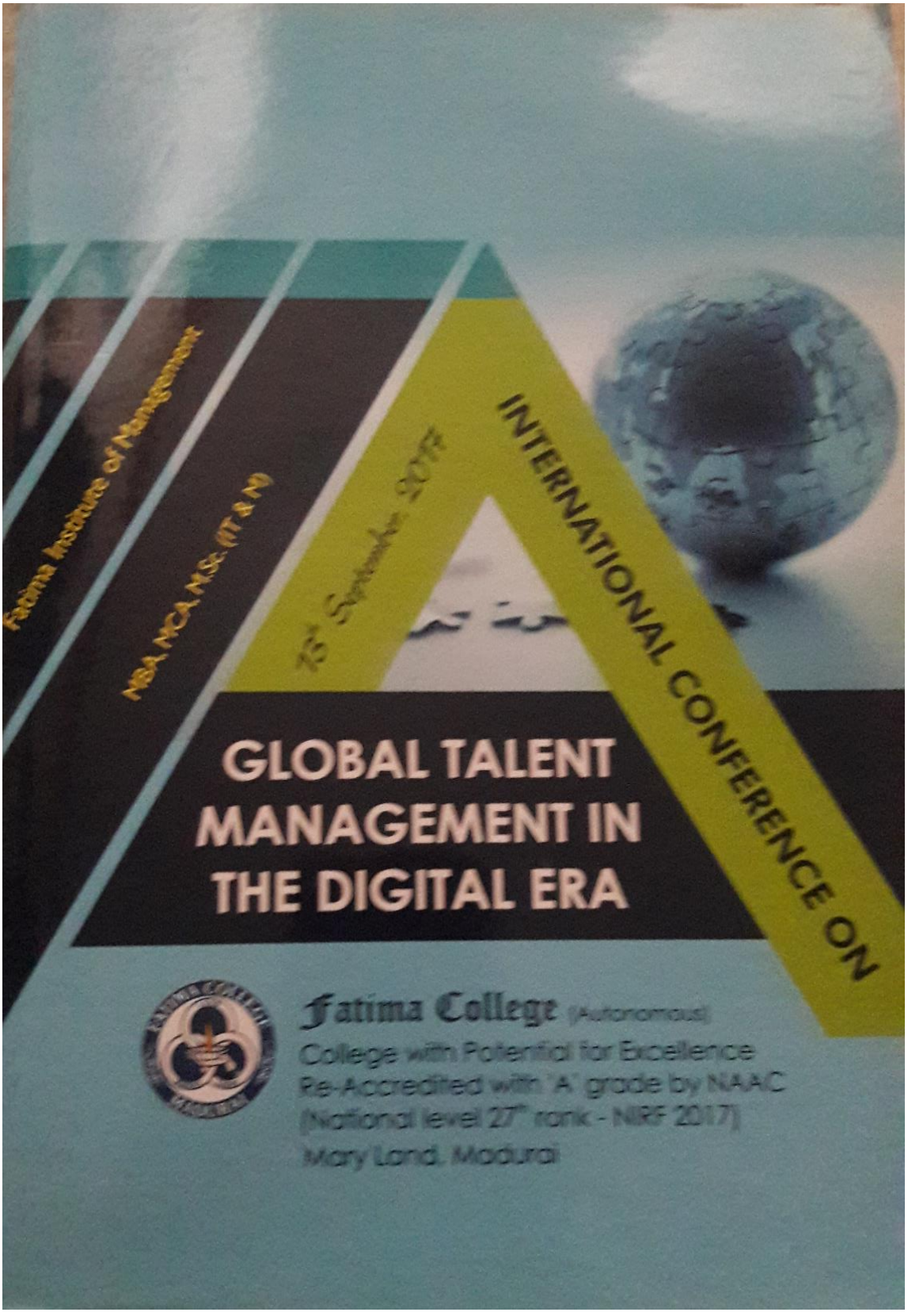
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PROGNOSTICATE HEART DISEASE USING MAFIA

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Abstract

Prognosticating a Heart disease at the early stage is a very challenging one. Data mining techniques are significantly used in many areas including chemin informatics, bio informatics, business ,science and it can be applied on differ data such as visual , textual, real time and spatial data. To get better result the data mining techniques can be applied on the medical data which is information rich but the knowledge poor. Data mining is to trawl huge amount of data to discover or identify interpretable unknown patterns in the data. Data mining has been widely considered as an effective tool for medical knowledge discovery. Huge amount of data generated by medical transactions are complex to be processed and analyzed by traditional methods. Data mining provides technology to transform these data into useful information for decision making. Predicting the outcome of the disease is one of the challenging tasks. Association rule mining is a general purpose rule discovery scheme. It is being used for rules in medical data. In this thesis we discuss about an approach for prediction of the risk levels of heart attack from medical database. The detection of heart disease from various symptoms is a major challenging task, and so we collect experience and knowledge from specialist for effective diagnosis. Initially, the records are being cleaned and filtered so that irrelevant data would be removed from the database. Then, clustering is performed using K-Means clustering algorithm where the data relevant to heart attack is being extracted. After that, the frequent patterns are being mined from the relevant data using MAFIA (Maximal Frequent Itemset Algorithm) algorithm. Finally, we use the decision tree C4.5 algorithm to display the level of heart attack. The result produced is expected to be capable of predicting the heart attack efficiently and the test results are tabulated to perform experiential learning based on past data sets. Keywords- Data mining; Frequent Pattern; MAFIA (Maximal Frequent Itemset Algorithm); C4.5 Algorithm

Keywords— *Data mining algorithms,, K-means algorithms, Clustering methods etc.*

Introduction

Data mining is process of extracting useful information from large amount of databases. Data mining is most useful in an exploratory analysis because of nontrivial information in large volumes of data. Data mining is the process of extracting data for finding buried patterns which can be transformed into significant. Data mining knowledge afford a user-oriented approach to new and concealed patterns in the data. The knowledge which is exposed can be used by the healthcare practitioners to get better quality of service and to reduce the extent of adverse medicine effect. Hospitals have to reduce the charge of medical tests. They can attain these consequences by employing suitable decision support systems. Health care data is enormous. It consists of patient centric data, resource organization data and altered data. Medical care organizations must have capability to explore data. Treatment records of millions of patients can be hoarded and data mining techniques will aid in answering numerous essential and decisive questions interrelated to health care. Data mining techniques has been performed in healthcare domain. This realization is in the arouse of explosion of difficult medical data. Medicinal data mining can utilize the veiled patterns present in huge medical data which otherwise is left undiscovered. Data mining techniques which are useful to medical data include association rule mining for finding frequent patterns, prediction, classification and clustering. Data mining techniques are more useful in predicting heart diseases, lung cancer, and diabetes. This paper analyzes the heart disease predictions using classification algorithms. These hidden patterns can be used for health diagnosis in medicinal data. Data mining technology afford an effective approach to latest and indefinite patterns in the data. The information which is identified can